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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/587,770	INABA ET AL.
	Examiner	Art Unit	
	MICHELLE OWYANG	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 July 2006</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-19</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-19</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>28 July 2006</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some *   c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>28 July 2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

1.   Examiner acknowledged applicant's amendment filed on 7/28/2008, in which claim 12

has amended, and the abstract and figures 33-36C have replaced.

Claims 1-19 are pending in this application.

Drawings

2.   The drawings are objected to for not clearly depict the claimed invention. For example,

figure element 411 of Fig 9, and figure element 532 of Fig 13, it is unclear how tables are

generated, and how the characters are parsed. Corrected drawing sheets in compliance with 37

CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. The figure or

figure number of an amended drawing should not be labeled as "amended." If a drawing figure is

to be canceled, the appropriate figure must be removed from the replacement sheet, and where

necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets

may be necessary to show the renumbering of the remaining figures. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

accepted by the examiner, the applicant will be notified and informed of any required corrective

action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3.   The disclosure is objected to for lack of sufficient description for the figure elements, e.g.

element 411 in Figure 9, and element 532 in Figure 13.

        Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

4.   Claims 1-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

        The claims lack the necessary physical articles or objects to constitute a machine or a

manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to

be a process nor are they a combination of chemical compounds to be composition of matter. As

such, they fail to fall within a statutory category. They are, the best functional descriptive

material, per se.

        Descriptive material can be characterized as either "functional descriptive material" or

"nonfunctional descriptive material." In this context, "functional descriptive material." both

types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33

F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some

computer-readable medium, it becomes structurally and functionally interrelated to the medium

and will be statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035

(Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a

computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not

make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an

algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application

of the algorithm was in connection with the programming of a general purpose computer.").

With respect to claims 1-12, "an apparatus" is recited; however, it appears that the

apparatus would reasonably be interpreted by one of ordinary skill in the art as software, per se.

because it fails to recite a hardware component (i.e. processor or memory) to enable the function

to be realized.

With respect to claims 13-16, "a method" is recited; however, it appears that the method

would reasonably be interpreted by one of ordinary skill in the art as an abstract idea, which fails

to fall within the statutory category.

With respect to claim 17, "a method" and "an apparatus" are recited, and is directed to

neither a "process" nor a "machine", but rather embraces over or overlaps two different statutory

classes of invention set forth in 35 USC 101 which is drafted so as to set forth the statutory

classes of invention in the alternative only. See Ex parte Lyell, 17 USPQ2d 1548 and MPEP

2173.05 (p).

    With respect to claims 18-19, "a database apparatus", "a database constructing

apparatus", and "a database search apparatus" are recited; however, it appears that the

apparatuses would reasonably be interpreted by one of ordinary skill in the art as software, per

se. because it fails to recite a hardware component (i.e. processor or memory) to enable the

function to be realized.

Claim Rejections - 35 USC § 112

    The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

5.   Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

    The claims are generally narrative and indefinite, failing to conform with current U.S.

practice. They appear to be a literal translation into English from a foreign document and are

replete with grammatical and idiomatic errors.

    With respect to claims 1-19, it appears to one ordinary skill in the art that the "element

appearance information" recited claims 1, 4, 5, 6, 9, 13, 14, 16, 17 and 18, and the "ancestral

path appearance information" recited in claims 1, 5, 6, 9, 13, 17 and 18, and the "attribute

appearance information" recited in claims 2, 5, 10, and 19, and the "text appearance information"

recited in claims 3, 6 and 11 are similar. It is unclear whether they are the same or not, and how

they are related. Hence, the claims are not clearly understood rendering claim indefinite.

In addition, the claimed term "an element of interest appears" recited in claims 1, 9, 13,

17, and 18, are not clearly understood rendering claim indefinite. It is unclear what is meant by

"an element of interest appears" and how it is defined.

With respect to claim 17, "a method" and "an apparatus" are recited; however, the claim

is an hybrid claim that claims a method and apparatus. It fails to positively recite the boundaries

sought for protection. The metes and bounds of the claim can not be determined because it is

unclear to which category of subject matter is sought for protection, i.e. the apparatus or the

method.

Any claim not specifically addressed, above, is being rejected as incorporating the

deficiencies of a claim which it depends.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.   Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igata (Pub

No. US 2001/0007987 A1) in view of Abe et al. (Patent No. US 7,197,510 B2), hereinafter Abe.

With respect to claim1, Igata discloses a database building apparatus for managing

structured documents *(document management in a database utilizing search performance,*

[0003]), the database building apparatus comprising:

an input document analysis portion *(document structure analyzing unit, [0058], Fig 1)* for

assigning a unique document number to each structured document and analyzing its structure

(the unit analyze the document to generate a hierarchical index and assign document id to the

document, document id corresponds to a document number, [0026]);

an element name registration portion for assigning a unique element name ID to each

element name appearing in the structured document based on results of the analysis performed

by the input document analysis portion and registering the element name in an element name

dictionary *(Assigning part id associated with the document and store in the storage based on the*

document structure analyzing unit, [0159], lines 4-10, Fig 1, 14); and

an appearance information registration portion for registering element appearance

information including at least information about a document number at which an element of

interest appears, character position, ancestral path name ID, and order of branches in element

appearance information storage portion using an element name ID as a key based on the results

of the analysis performed by the input document analysis portion and for registering ancestral

path appearance information including at least information about the document number at which

the element of interest appears, character position, element name ID, and order of branches in an

ancestral path appearance information storage portion using the ancestral path name ID as a key

(storing the characteristic element information including the search key and the identifier,

[0159], Fig 14).

Igata does not explicitly disclose an ancestral path name registration portion for assigning

a unique ancestral path name ID to each ancestral path name appearing in the structured

document based on the results of the analysis performed by the input document analysis portion

and registering the ancestral path name in an ancestral path name dictionary.

However, Abe discloses an ancestral path name registration portion for assigning a

unique ancestral path name ID to each ancestral path name appearing in the structured document

based on the results of the analysis performed by the input document analysis portion and

registering the ancestral path name in an ancestral path name dictionary *(generate a structure*

pattern and store in the storage, the structure pattern corresponds to the ancestral path, Col. 13,

lines 9-17, Fig 13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management apparatus of Igata in order to help user

to improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 9, Igata discloses a database search apparatus for managing

structured documents *(document management in a database utilizing search performance,*

[0003]), the database search apparatus comprising:

an element name dictionary in which a unique element name ID has been registered for

each element name appearing in each structured document *(generate hierarchical index for the*

elements in the structured document, [0026], Fig 1);

an element appearance information storage portion in which element appearance

information has been stored using an element name ID as a key based on results of analysis of

the structured document, the element appearance information including at least information

about a document number at which an element of interest appears, character position, ancestral

path name ID, and order of branches *(store text index for the structured document, and the index*

includes key and identifier associating with the element, [0091], Fig 1, Fig 14);

a search condition input portion for entering a search formula *(accepting query, and the*

query corresponds to the search formula, [0026], lines 11-12, Fig 1);

a search condition analysis portion for converting the input search formula into an

internal condition formula by referring to the element name dictionary and the ancestral path

name dictionary *(convert the query into the hierarchical index, [0026],lines 11-15, Fig 1, 27)*;

and

an appearance information acquisition portion for finding plural search results from

element appearance information from the element appearance information storage portion and

from ancestral path appearance information from the ancestral path appearance information

storage portion according to the internal condition formula output by the search condition

analysis portion *(obtain the results based on the hierarchical index and text index associated*

with the structured document, [0026], lines 11-15, Fig 1, 23).

Igata does not explicitly disclose ancestral path name dictionary in which a unique

ancestral path name ID has been registered for each ancestral path name appearing in the

structured document;

an ancestral path appearance information storage portion in which ancestral path

appearance information has been stored using an ancestral path name ID as a key based on the

results of the analysis of the structured document, the ancestral path appearance information

including at least information about the document number at which the element of interest

appears, character position, element name ID, and order of branches;

However, Abe discloses ancestral path name dictionary in which a unique ancestral path

name ID has been registered for each ancestral path name appearing in the structured document

(generate and store structured pattern for the document in the document logical structure

information storage, Col. 4, lines 36-45, Col. 11, lines 64-67, Fig 2,12-13);

an ancestral path appearance information storage portion in which ancestral path

appearance information has been stored using an ancestral path name ID as a key based on the

results of the analysis of the structured document, the ancestral path appearance information

including at least information about the document number at which the element of interest

appears, character position, element name ID, and order of branches *(the path includes*

information such as the nodes and their positions, which corresponds to the ancestral path

appearance information, Col. 12, lines 4-17, Fig 12-13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management apparatus of Igata in order to help user

to improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 13, Igata discloses a method of constructing a database for

managing structured documents *(document management in a database utilizing search*

performance, [0003]), the method comprising the steps of:

assigning a unique document number to each structured document and analyzing its

structure *(the unit analyze the document to generate a hierarchical index and assign document id*

to the document, document id corresponds to a document number, [0026]);

assigning a unique element name ID to each element name appearing in the structured

document based on results of the analysis and registering the element name in an element name

dictionary *(Assigning part id associated with the document and store in the storage based on the*

document structure analyzing unit, [0159], lines 4-10, Fig 1, 14); and

registering element appearance information including at least information about a

document number at which an element of interest appears, character position, ancestral path

name ID, and order of branches into an element appearance information storage portion using an

element name ID as a key based on the results of the analysis and registering ancestral path

appearance information including at least information about the document number at which the

element of interest appears, character position, element name ID, and order of branches into an

ancestral path appearance information storage portion using an ancestral path name ID as a key

(storing the characteristic element information including the search key and the identifier,

[0159], Fig 14).

Igata does not explicitly disclose assigning a unique ancestral path name ID to each

ancestral path name appearing in the structured document based on results of the analysis and

registering the ancestral path name ID in an ancestral path name dictionary.

However, Abe discloses assigning a unique ancestral path name ID to each ancestral path

name appearing in the structured document based on results of the analysis and registering the

ancestral path name ID in an ancestral path name dictionary *(generate a structure pattern and*

store in the storage, the structure pattern corresponds to the ancestral path, Col. 13, lines 9-17,

Fig 13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management method of Igata in order to help user to

improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 17, Igata discloses a method of searching a database for managing

structured documents by the use of a database search apparatus *(document management in a*

database utilizing search performance, [0003]), the database search apparatus having:

an element name dictionary in which an element name ID unique to each element name

appearing in each structured document has been registered *(the unit analyze the document to*

generate a hierarchical index and assign document id to the document, document id corresponds to a document number, [0026], Fig 1);

an element appearance information storage portion in which element appearance information is stored using an element name ID as a key based on results of analysis of the structured document, the element appearance information including at least information about a document number at which an element of interest appears, character position, ancestral path name ID, and order of branches *(store text index for the structured document, and the index includes key and identifier associating with the element, [0091], Fig 1, Fig 14)*; and

the method comprising the steps of:

entering a search formula *(accepting query, and the query corresponds to the search formula, [0026], lines 11-12, Fig 1)*;

converting the entered search formula into internal condition formulas while referring to the element name dictionary and the ancestral path name dictionary *(convert the query into the hierarchical index, [0026],lines 11-15, Fig 1, 27)*; and

finding plural search results from element appearance information from the element appearance information storage portion and from ancestral path appearance information from the ancestral path appearance information storage portion according to the internal condition formulas *(obtain the results based on the hierarchical index and text index associated with the structured document, [0026], lines 11-15, Fig 1, 23)*.

Igata does not explicitly disclose an ancestral path name dictionary in which an ancestral path name ID unique to each ancestral path name appearing in the structured document has been registered;

ancestral path appearance information storage portion in which ancestral path appearance information is stored using an ancestral path name ID as a key based on the results of the analysis of the structured document, the ancestral path appearance information including at least information about the document number at which the element of interest appears, character position, element name ID, and order of branches.

However, Abe discloses an ancestral path name dictionary in which an ancestral path name ID unique to each ancestral path name appearing in the structured document has been registered *(generate and store structured pattern for the document in the document logical structure information storage, Col. 4, lines 36-45, Col. 11, lines 64-67, Fig 2,12-13)*;

ancestral path appearance information storage portion in which ancestral path appearance information is stored using an ancestral path name ID as a key based on the results of the analysis of the structured document, the ancestral path appearance information including at least information about the document number at which the element of interest appears, character position, element name ID, and order of branches *(the path includes information such as the nodes and their positions, which corresponds to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13)* .

It would have been obvious to one skilled in the art at the time of the invention to modify the structure pattern technique of Abe in the management method of Igata in order to help user to improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 18, Igata discloses a database apparatus for managing structured documents *(document management in a database utilizing search performance, [0003])*, the database apparatus comprising:

a database constructing apparatus *(document structure analyzing unit, [0058], Fig 1)* having

an element name dictionary for storing an element name ID unique to each element name appearing in each structured document *(the unit analyze the document to generate a hierarchical index and assign document id to the document, document id corresponds to a document number, [0026])*;

an input document analysis portion for assigning a unique document number to the structured document and analyzing its structure *(assign document id to the document, document id corresponds to a document number, [0026])*;

an element name registration portion for assigning a unique element name ID to each element name appearing in the structured document based on results of analysis performed by the input document analysis portion and registering the element name in the element name dictionary *(assigning part id associated with the document and store in the storage based on the document structure analyzing unit, [0159], lines 4-10, Fig 1, 14)*;

an element appearance information storage portion for storing element appearance information including at least information about document number, character position, ancestral path name ID, and order of branches using an element name ID as a key *(storing the characteristic element information including the search key and the identifier, [0159], Fig 14)*;

an appearance information registration portion for registering element appearance

information including at least information about the document number at which the element of

interest appears, character position, ancestral path name ID, and order of branches into the

element appearance information storage portion using the element name ID of the element of

interest as a key based on the results of the analysis performed by the input document analysis

portion and registering ancestral path appearance information including at least information

about the document number at which the element of interest appears, character position, element

name ID, and order of branches into the ancestral path appearance information storage portion

using the ancestral path name ID of the element of interest as a key *store text index for the*

structured document, and the index includes key and identifier associating with the element,

[0091], Fig 1, Fig 14); and

a database search apparatus *(structured document search apparatus, [0003])* having

a search condition input portion for entering a search formula *(accepting query, and the*

query corresponds to the search formula, [0026], lines 11-12, Fig 1);

a search condition analysis portion for converting the search formula entered by the

search condition input portion into an internal condition formula in which element name and

ancestral path name are expressed by element name ID and ancestral path name ID, respectively,

while referring to the element name dictionary and the ancestral path name dictionary *(convert*

the query into the hierarchical index, [0026], lines 11-15, Fig 1, 27); and

an appearance information acquisition portion for extracting data about plural search

results complying with the internal condition formula created by the search condition analysis

portion from the element appearance information stored in the element appearance information

storage portion and from the ancestral path appearance information stored in the ancestral path

appearance information storage portion *(obtain the results based on the hierarchical index and*

text index associated with the structured document, [0026], lines 11-15, Fig 1, 23).

Igata does not explicitly disclose an ancestral path name dictionary for storing an

ancestral path name ID unique to each ancestral path name appearing in the structured document,

an ancestral path name registration portion for assigning a unique ancestral path name ID

to each ancestral path name appearing in the structured document based on the results of the

analysis performed by the input document analysis portion and registering the ancestral path

name in the ancestral path name dictionary,

an ancestral path appearance information storage portion for storing ancestral path

appearance information including at least information about document number, character

position, element name ID, and order of branches using an ancestral path name ID as a key,

However, Abe discloses an ancestral path name dictionary for storing an ancestral path

name ID unique to each ancestral path name appearing in the structured document *(generate and*

store structured pattern for the document in the document logical structure information storage,

Col. 4, lines 36-45, Col. 11, lines 64-67, Fig 2,12-13);

an ancestral path name registration portion for assigning a unique ancestral path name ID

to each ancestral path name appearing in the structured document based on the results of the

analysis performed by the input document analysis portion and registering the ancestral path

name in the ancestral path name dictionary *(generate a structure pattern and store in the storage,*

the structure pattern corresponds to the ancestral path, Col. 13, lines 9-17, Fig 13),

an ancestral path appearance information storage portion for storing ancestral path appearance information including at least information about document number, character position, element name ID, and order of branches using an ancestral path name ID as a key *(the path includes information such as the nodes and their positions, which corresponds to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13).*

It would have been obvious to one skilled in the art at the time of the invention to modify the structure pattern technique of Abe in the management apparatus of Igata in order to help user to improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 2, Igata discloses an attribute name registration portion for assigning a unique attribute name ID to each attribute name appearing in the structured document based on the results of the analysis performed by the input document analysis portion and registering the attribute name in an attribute name dictionary *(search key associated with the characteristic element of the document is generated and stored, [0159], Fig 14),*

wherein the appearance information registration portion registers attribute appearance information including at least information about a document number at which an attribute of interest appears, character position, ancestral path name ID, element name ID, and order of branches in an attribute appearance information storage portion using the attribute name ID as a key based on the results of the analysis performed by the input document analysis portion *(analyzing and storing the characteristic element information associated with the structured document including the search key and the identifier, [0159], Fig 14).*

With respect to claim 3, Igata discloses wherein the appearance information registration portion registers text appearance information including at least information about appearing document number, character position, ancestral path name ID, element name ID, attribute name ID, and order of branches regarding partial character strings extracted from element entity text and attribute values in text appearance information storage portion using the extracted partial character strings as keys based on the results of the analysis performed by the input document analysis portion *(analyzing and storing the characteristic element information associated with the structured document including the search key and the identifier, [0159], Fig 14)*.

With respect to claim 4, Igata discloses wherein the element appearance information includes at least information about a document number at which an element of interest appears, character position, ancestral path name ID, order of branches, and order of empty elements, and wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements *(analyzing and storing the characteristic element information associated with the structured document including the search key and the identifier, [0159], Fig 14)*.

With respect to claim 5, Igata discloses wherein the element appearance information includes at least information about the document number at which the element of interest appears, character position, ancestral path name ID, order of branches, and order of empty

elements *(store text index for the structured document, and the index includes key and identifier associating with the element, [0091], Fig 1, Fig 14)*;

wherein the attribute appearance information includes at least information about the document number at which the attribute of interest appears, character position, ancestral path name ID, element name ID, order of branches, and order of empty elements *(analyzing and storing the characteristic element information associated with the structured document including the search key and the identifier, [0159], Fig 14)*.

Igata does not explicitly disclose wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements.

However, Abe discloses wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements *(the path includes information such as the nodes and their positions, which corresponds to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13)*.

It would have been obvious to one skilled in the art at the time of the invention to modify the structure pattern technique of Abe in the management apparatus of Igata in order to help user to improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 6, Igata discloses wherein the element appearance information includes at least information about the document number at which the element of interest appears, character position, ancestral path name ID, order of branches, and order of empty

elements *(store text index for the structured document, and the index includes key and identifier associating with the element, [0091], Fig 1, Fig 14)*;

wherein the text appearance information includes at least information about appearing document number, character position, ancestral path name ID, element name ID, attribute name ID, order of branches, and order of empty elements regarding partial character strings extracted from element entity text and attribute values *(analyzing and storing the characteristic element information associated with the structured document including the search key and the identifier, [0159], Fig 14)*.

Igata does not explicitly disclose wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements.

However, Abe discloses wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements *(the path includes information such as the nodes and their positions, which corresponds to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13)*.

It would have been obvious to one skilled in the art at the time of the invention to modify the structure pattern technique of Abe in the management apparatus of Igata in order to help user to improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 7, Igata does not explicitly disclose wherein the ancestral path name registration portion assigns a unique ancestral path name ID to each partial ancestral path

name obtained by dividing each ancestral path name appearing in the structured document into

more than one partial ancestral path name and registers the partial ancestral path name in the

ancestral path name dictionary.

However, Abe discloses wherein the ancestral path name registration portion assigns a

unique ancestral path name ID to each partial ancestral path name obtained by dividing each

ancestral path name appearing in the structured document into more than one partial ancestral

path name and registers the partial ancestral path name in the ancestral path name dictionary

(generate and store structured pattern for the document in the document logical structure

information storage, the structured pattern corresponds the ancestral path and includes the path

names, Col. 4, lines 36-45, Col. 11, lines 64-67, Fig 2,12-13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management apparatus of Igata in order to help user

to improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 8, Igata discloses an appearance information grouping portion for

grouping entries having common values of more than one information item other than document

number and character position regarding entries of the element appearance information

registered in the element appearance information storage portion using the same element name

ID as a key *(generate a table having document number and characteristic elements, [0159], Fig*

14).

Igata does not explicitly disclose entries of the ancestral path appearance information

registered in the ancestral path appearance information storage portion using the same ancestral

path name ID as a key.

However, Abe discloses entries of the ancestral path appearance information registered in

the ancestral path appearance information storage portion using the same ancestral path name ID

as a key *(the path includes information such as the nodes and their positions, which corresponds*

to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management apparatus of Igata in order to help user

to improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 10, Igata discloses an attribute name dictionary in which attribute

name IDs and corresponding attribute names are recorded *(analyzing and storing the*

characteristic element information associated with the structured document, e.g. part 1, [0159],

Fig 14); and

an attribute appearance information storage portion in which attribute appearance

information is stored using the attribute name IDs as keys, the attribute appearance information

including at least information about a document number at which an attribute of interest appears,

character position, ancestral path name ID, element name ID, and order of branches *(analyzing*

and storing the characteristic element information associated with the structured document

including the search key and the identifier, [0159], Fig 14);

wherein the search condition analysis portion converts a search formula entered from the

search condition input portion into internal condition formulas while referring to the element

name dictionary and the ancestral path name dictionary *(convert the query into the hierarchical*

index, [0026],lines 11-15, Fig 1, 27); and

wherein the appearance information acquisition portion finds plural search results from

element appearance information from the element appearance information storage portion,

ancestral path appearance information from the ancestral path appearance information storage

portion, and attribute appearance information from the attribute appearance information storage

portion according to the internal condition formula output by the search condition analysis

portion *(obtain the results based on the hierarchical index and text index associated with the*

structured document based on the query tree, [0026], lines 11-15, Fig 1, 23, 27).

With respect to claim 11, Igata discloses a text appearance information storage portion in

which text appearance information is stored using extracted partial character strings as keys

regarding the partial character strings extracted from element entity text and attribute values, the

text appearance information including at least information about appearing document number,

character position, ancestral path name ID, element name ID, attribute name ID, and order of

branches *(extract text index information for the structured document, and the index includes key*

and identifier associating with the element, [0091],[0159], Fig 1, Fig 14);

wherein the appearance information acquisition portion finds plural search results from

element appearance information from the element appearance information storage portion,

ancestral path appearance information from the ancestral path appearance information storage

portion, and text appearance information from the text appearance information storage portion

according to the internal condition formula output by the search condition analysis portion*(apply*

the generated query tree structure to find the results using the search key and identifier

information associated with the documents, [0034], Fig 1, 23).

       With respect to claim 12, Igata discloses wherein the appearance information acquisition

portion compares the number of entries of a specified element name ID in the element

appearance information storage portion and the number of entries of a specified ancestral path

name ID in the ancestral path appearance information storage portion, refers to appearance

information having the fewer number of entries, and finds plural search results *(apply the*

generated query tree structure to find the results using the search key and identifier information

associated with the documents, [0034], Fig 1, 23).

       With respect to claim 14, Igata discloses wherein the element appearance information

includes at least information about the document number at which the element of interest

appears, character position, ancestral path name ID, order of branches, and order of empty

elements*(store text index for the structured document, and the index includes key and identifier*

associating with the element, [0091], Fig 1, Fig 14).

       Igata does not explicitly disclose wherein the ancestral path appearance information

includes at least information about the document number at which the element of interest

appears, character position, element name ID, order of branches, and order of empty elements.

However, Abe discloses disclose wherein the ancestral path appearance information includes at least information about the document number at which the element of interest appears, character position, element name ID, order of branches, and order of empty elements *(the path includes information such as the nodes and their positions, which corresponds to the ancestral path appearance information, Col. 12, lines 4-17, Fig 12-13).*

It would have been obvious to one skilled in the art at the time of the invention to modify the structure pattern technique of Abe in the management method of Igata in order to help user to improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 15, Igata does not explicitly disclose wherein the registering step into the ancestral path name dictionary consists of assigning a unique ancestral path name ID to each partial ancestral path name obtained by dividing each ancestral path name appearing in each structured document into more than one partial ancestral path name and registering the partial ancestral path name;

wherein the element appearance information includes a string of more than one ancestral path name ID instead of a single ancestral path name ID; and

wherein the ancestral path appearance information is registered in the ancestral path appearance information storage portion using a string of more than one ancestral path name ID as a key instead of a single ancestral path name ID.

However, Abe discloses wherein the registering step into the ancestral path name dictionary consists of assigning a unique ancestral path name ID to each partial ancestral path name obtained by dividing each ancestral path name appearing in each structured document into

more than one partial ancestral path name and registering the partial ancestral path name

(generate and store structured pattern for the document in the document logical structure

information storage, Col. 4, lines 36-45, Col. 11, lines 64-67, Fig 2,12-13);

wherein the element appearance information includes a string of more than one ancestral

path name ID instead of a single ancestral path name ID *(the path includes information such as*

the nodes and their positions, which corresponds to the ancestral path appearance information,

Col. 12, lines 4-17, Fig 12-13); and

wherein the ancestral path appearance information is registered in the ancestral path

appearance information storage portion using a string of more than one ancestral path name ID

as a key instead of a single ancestral path name ID *(Col. 12, lines 4-17, Fig 12-13)*.

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management method of Igata in order to help user to

improve with searching *(Abe, Col. 4, lines 23-27)*.

With respect to claim 16, Igata discloses grouping entries of the element appearance

information having common values of information items other than document number and

character position, the entries being registered in the element appearance information storage

portion using the same element name ID as a key *(generate a table having document number and*

characteristic elements, [0159], Fig 14).

Igata does not explicitly disclose grouping entries of the ancestral path appearance

information having common values of information items other than document number and

character position, the entries being registered in the ancestral path appearance information

storage portion using the same ancestral path name ID as a key.

However, Abe discloses disclose grouping entries of the ancestral path appearance

information having common values of information items other than document number and

character position, the entries being registered in the ancestral path appearance information

storage portion using the same ancestral path name ID as a key *(the path includes information*

such as the nodes and their positions, which corresponds to the ancestral path appearance

information, Col. 12, lines 4-17, Fig 12-13).

It would have been obvious to one skilled in the art at the time of the invention to modify

the structure pattern technique of Abe in the management method of Igata in order to help user to

improve with searching *(Abe, Col. 4, lines 23-27).*

With respect to claim 19, Igata discloses an attribute name dictionary for storing attribute

name IDs and corresponding attribute names *(table storing the search key and ID, and the table*

corresponds to the dictionary, and the search key and id correspond to the attributes, Fig 14);

an attribute name registration portion for assigning a unique attribute name ID to each

attribute name appearing in the structured document based on results of analysis performed by

the input document analysis portion and registering the attribute name in the attribute name

dictionary *(search key associated with the characteristic element of the document is generated*

*and stored, [0159], Fig 14)*l and

an attribute appearance information storage portion for storing attribute appearance

information including at least information about document number, character position, ancestral

path name ID, element name ID, and order of branches using the attribute name ID as a key

(analyzing and storing the characteristic element information associated with the structured

document including the search key and the identifier, [0159], Fig 14).

wherein the appearance information registration portion further registers attribute

appearance information in the attribute appearance information storage portion using the

attribute name ID as a key based on the results of the analysis performed by the input document

analysis portion, the attribute appearance information including at least information about a

document number at which an attribute of interest appears, character position, ancestral path

name ID, element name ID, and order of branches *(analyzing and storing the characteristic*

element information associated with the structured document including the search key and the

identifier, [0159], Fig 14),

wherein the search condition analysis portion further converts the search formula entered

by the search condition input portion into an internal condition formula in which the attribute

name is expressed by an attribute ID while referring to the attribute name dictionary *(convert the*

query into the hierarchical index, [0026],lines 11-15, Fig 1, 27); and

wherein the appearance information acquisition portion further extracts data about plural

search results complying with the internal condition formula output by the search condition

analysis portion from element output information stored in the element appearance information

storage portion, ancestral path appearance information stored in the ancestral path appearance

information storage portion, and attribute appearance information stored in the attribute

appearance information storage portion *(obtain the results based on the hierarchical index and*

text index associated with the structured document, [0026], lines 11-15, Fig 1, 23).

Examiner's Notes

As to claims 1-19, while the prior art does not explicitly illustrate "least information about a document number at which an element of interest appears, character position, ancestral path name ID, and order of branches in element appearance information storage portion using an element name ID as a key based on the results of the analysis performed by the input document analysis portion", these features are addressed to non-functional descriptive material since they are pure data which do not impart functionality to the machine containing this data. Accordingly, the features set forth in claims 1-19 do not carry any patentable weight, as they are non-functional descriptive material (*In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983), *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994); *In re Ngai*, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004)). Also note MPEP 2106.01, which recites: *"USPTO personnel should determine whether the claimed nonfunctional descriptive material be given patentable weight...However, USPTO personnel need not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate".*

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MICHELLE OWYANG whose telephone number is (571)270-

1254. The examiner can normally be reached on Monday-Friday (Alternate Fridays Off): 8am-

5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, TIM VO can be reached on 571-272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MO/
7/2/2008

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